



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,247	08/27/2003	Chun-Ming Hsu	0941-0816P	3749
2292	7590	10/24/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			BAYARD, EMMANUEL	
PO BOX 747			ART UNIT	
FALLS CHURCH, VA 22040-0747			PAPER NUMBER	
			2611	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,247

Applicant(s)

HSU ET AL.

Examiner

Emmanuel Bayard

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-17 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilson U.S patent No 7,099,688 B2.

As per claim 1, Wilson a receiving method for a dual-mode receiver, the method characterized in that: when a received communication signal is a wideband signal, the dual-mode receiver is configured as a direct-conversion receiver (see figs.2, 4 element 204); and when a received communication signal is a narrowband signal, the dual-mode receiver is configured as a low-IF receiver (see figs. 2, 4 element 206 and col.2, line 65-col.3, lines 1-67).

As per claim 2, Wilson wherein receipt of a communication signal by a direct-conversion mode further comprises: receiving an input signal with a carrier (see col.2, lines 55-57); amplifying the input signal (see fig. 4 element 402 and col.4, lines 9-25); converting the amplified signal down to baseband signals, wherein the baseband signals comprise an I-channel signal and a Q-channel signal (see fig.4 element 404 and col.4, lines 25-39); canceling DC offsets of the I-channel signal and the Q-channel

Art Unit: 2611

signal (see fig.4, element 416 and col.4, lines 55-65 and col.5, lines 1-10); and filtering and amplifying the signals without DC offsets to generate a pair of signals output (see fig.4 element 420 and col.5, lines 12-34).

3. The method of claim 1, wherein receipt of a communication signal by a low-IF mode organized further comprises: receiving an input signal with a carrier (see col. 2, lines 55-67); amplifying the input signal (see fig. 4 element 402 and col.4, lines 9-25); converting the amplified signal down to intermediate frequency signals, wherein the intermediate frequency signals comprise an I-channel signal and a Q-channel signal (see col.5, lines 35-38); canceling DC offsets and image of the I-channel signal and the Q-channel signal (see fig.4 element 438 and col.5, lines 49-59); filtering and amplifying the signals without DC offsets and image to generate a pair of signals (see fig.4 element 434, 436) and ; and converting the pair of signals down to base-band signals output, wherein the baseband signals comprise a second I-channel signal and a second Q-channel signal (see fig.4 element 440, 444 and col.5, line 60-col.6, lines 1-24).

Allowable Subject Matter

3. Claims 4-17 are allowed over the prior art of record.
4. The following is a statement of reasons for the indication of allowable subject matter: a pair of switching elements for connecting the programmable gain amplifiers to the secondary down converter when the dual-mode receiver operates in the low-IF mode as recited in claim 4. A pair of switching elements for connecting the

programmable gain amplifiers to the quadrature secondary down converter when the dual-mode receiver operates in the low-IF mode as recited in claim 11.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tomiya et al U.S. Patent No 6,094,564 teaches a mobile communication apparatus.

Hajimiri et al U.S Pub No 2002/0173337 A1 teaches a concurrent dual-band receiver.

Severson et al U.S. 6,775,530 B2 teaches a direct conversion.

Seppinen et al U.S. Pub 2004/0069852 A1 teaches a Bluetooth RF based.

Sugar et al U.S. Pub 2004/0121753 A1 teaches multiple-input multiple-output radio.

Khlat et al U.S. Pub No 20010014594 A1 teaches a dual digital LOW IF complex receiver.

Dent U.S. Patent No 5,668,837 teaches a dual-mode radio.

Lin et al U.S. Pub No 2004/0038649 A1 teaches a zero intermediate frequency to low intermediate frequency.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM)
Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571 272 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Bayard
Primary Examiner
Art Unit 2611

10/18/06


EMMANUEL BAYARD
PRIMARY EXAMINER